Land Use and Market Area Analyses of Mega-Food Stores in Edmonton

by Edward Egyedy

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LAND USE AND MARKET AREA ANALYSES OF MEGA-FOOD STORES IN EDMONTON

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Important Note: This technical paper was prepared by the Corporate Forecasting Group, Long Range Planning Branch, Planning and Building Department. It documents research results as part of an ongoing forecasting activity. Neither the methods nor the results have been endorsed by the City of Edmonton.

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Executive Summary

Food retailing in Edmonton has changed over the last five years with the introduction of mega-food stores. These stores are unique because they combine the sale of food and non-food items in one large operation.

The giant food stores have been successful in changing the shopping habits of some consumers by attracting them from greater distances to purchase a larger variety and quantity of goods. Some consumers have abandoned the smaller, older, less efficient local neighbourhood food stores, resulting in store closures because of competition with mega-food stores.

The success of mega-food stores is directly related to the land use of the development site, building design and merchandizing. Locating along major commercial corridors has increased exposure of the stores to traffic and channelled customers from across the city to the mega-food stores.

Mega-food stores are capturing a share of the regional food market by drawing customers from across the city, with approximately 23% of their patrons from outside the city. Within Edmonton, there are three distinct market areas established by mega-food stores; north, south and western markets. The primary trade areas for the different markets show that the northern market had the most consumers from Londonderry (22%), Calder (20%) and Castle Downs (20%); the southern market from Millwoods (42%), Kaskitayo (18%) and Southgate (15%), and the western market from West Jasper Place (37%) and Jasper Place (35%).

These stores have been indirectly responsible for the development and growth of the large independent retail specialty stores locating near them on the major commercial corridors.

Mega-food stores have altered the travel patterns and traffic flows across the city; resulting in increasing traffic volumes. Further problems concern overall land use on the major commercial corridors, effects on surrounding neighbourhoods and future infilling which occurs between the businesses.

Major regional facilities on commercial corridors are likely to attract other retail uses wanting to capture a share in the regional market. The regional nature of the major commercial corridors are likely to continue and grow in the future.

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LAND USE AND MARKET AREA ANALYSES OF MEGA-FOOD STORES IN EDMONTON

1. INTRODUCTION

A new approach to food retailing has developed with the building of mega-food stores which combine the sale of food and non-food items in one larger operation. These giant food stores are changing the shopping habits of some consumers and, as well, retail market areas.

This report assesses mega-food stores in Edmonton by examining their land use and primary trade areas. In order to accomplish this task, a set of land use criteria for mega-food stores have been established and then related to a consumer license plate survey to determine the market extent of these stores. As shopping patterns change, the giant food stores are functioning more and more like regional shopping centres drawing customers from outside and across the city. These stores are also becoming the anchors for three of the major commercial corridors in Edmonton.

The purpose of this study is to identify the unique land use development patterns which are characteristic to mega-food stores and then relate this information to market areas. These land use functions determine the type of activities of mega-food stores. Information from this study should:

- determine the geographic extent of the retail market areas for mega-food stores;
- identify the consumer inflow rate from outside the city boundaries;
- provide information to describe the role of mega-food stores as major anchor tenants on specific arterial corridors; and
- determine the development potential for future mega-food stores in Edmonton.

All of the land use analysis and market area information on mega-food stores will be used as information to help determine land use policy strategies for mega-food store development and their relationship to major arterial corridors within the city's overall commercial component.

2. DEVELOPMENT OF MEGA-FOOD STORES

2.1 Historical Background

The grocery business has become very competitive over the last few years. Consumers have become sophisticated shoppers looking for convenience, fresher foods, longer service hours and a greater variety of products. As a result, mega-food stores have been developed to meet the growing consumer demands.

The 1950s saw neighbourhood supermarkets of 1,400 - 1,900 square metres (15,000 - 20,000 square feet) develop across Canada and the United States. These facilities usually draw customers by developing a small share from a larger market to be successful. A neighbourhood population of 5,000 -10,000 people could support this type of store.

The 1960s and 1970s saw the development of community supermarkets serving larger populations (up to 20,000 people) by drawing more customers from greater distances. These stores were built to around 2,800 -3,800 square metres (30,000 - 40,000 square feet), providing a wider range of grocery items. The new facilities included small specialty services in their operation such as bakeries and delicatessens. By the late seventies, some of the stores were approaching 45,000 - 50,000 square feet (4,200 - 5,400 square metres) in size and were introducing more specialty goods such as imported foods, fresh flowers, fish and even auto supplies.

2.2 Mega-Food Store Emergence

In the 1980s, the large mega-food stores were developed at suburban locations. Mega-food stores are generally defined as freestanding stores ranging in size from 7,000 - 9,300 square metres (75,000 - 100,000 square feet), located on approximately 10 acres of land with available parking for 700 - 800 automobiles, (Report by Kelly Douglas Inc. to Vancouver Planning Department on Mega-Markets, September 25, 1985). These stores draw customers from across the city and require about 50,000 people in their market areas, (City of Vancouver Planning Department, Report on Mega-Markets, July 15, 1987). Therefore, two mega-food stores located in the same area (e.g. Calgary Trail) require a population of over 100,000 to be successful.

Mega-food stores refined the idea of selling non-food items with groceries by introducing complete, non-food specialty departments into their stores. In many cases, the departments are complementary to the food products being sold and allow the consumer to choose from a larger variety of goods under the same roof while grocery shopping. Some of the specialty departments are drugstores, camera and stereo shops and even clothes, furniture and appliance centres. Sometimes these stores are referred to as combo stores to differentiate them from the purely food-oriented stores.

Mega-food stores have been designed to meet consumer demand by modelling themselves as versions of regional shopping centres to draw more customers and sell greater volumes of goods. They offer consumers convenient one-stop shopping for not only food but a variety of special needs. These stores have been able to pass on very substantial price reductions to their customers (12 - 15 percent in costs). They accomplish this by normally discounting a small fraction of their inventories in weekly advertised specials to entice shoppers, while they recoup

any losses on these bargains through the increased volume of sales of regularly priced goods. They also have reduced personal service to their customers which allows savings to be passed on as further price reductions.

Industry analysts have determined that sales for traditional community size supermarkets can gross $250,000 in sales per week, while mega-food stores gross about $1 - 1.5 million per week (Report to Vancouver Standing Committee on Planning and Economic Development by Dr. Walter G. Harwick, October 3, 1985). Grocery store researchers have also determined that mega-food stores in Alberta gained 11% or $275 million of the $2.5 billion grocery business across Canada in 1985. In 1984, mega-food stores found in Alberta had only 7.1% of the Canadian grocery market (Canadian Grocer, February, 1986).

Researchers have further measured that Food-for-Less and the Real Canadian Superstores captured about $210 million together from the total food sales available in the Edmonton area for 1986. This figure is more than one quarter of the $800 million total retail grocery business spent annually in Alberta (The Edmonton Report on Economic Development, "Edmonton's Co-ops Cling to Life - But They're Losing to Mega-Stores", Alberta Report, September 8, 1986). These facilities have established themselves as part of the retail market in all major cities in which they have located.

The mega-food stores in Edmonton include the "Real Canadian Superstores" owned by Kelly Douglas, a company of George Weston Ltd. of Toronto and Safeway's "Food-For-Less" stores (See Map 1). The Real Canadian Superstores have gradually moved west with 10 stores now located in Winnipeg, Edmonton, Regina and Saskatoon. Safeway's "Food-for-Less" stores have developed in the west and now have six locations in the western provinces.

Presently in Edmonton there are three Superstores and three Food-For-Less Stores. They are found in pairs on three major transportation corridors; Calgary Trail, 170 Street and 137 Avenue (See Map 1).

2.3 Impact of Mega-Food Stores

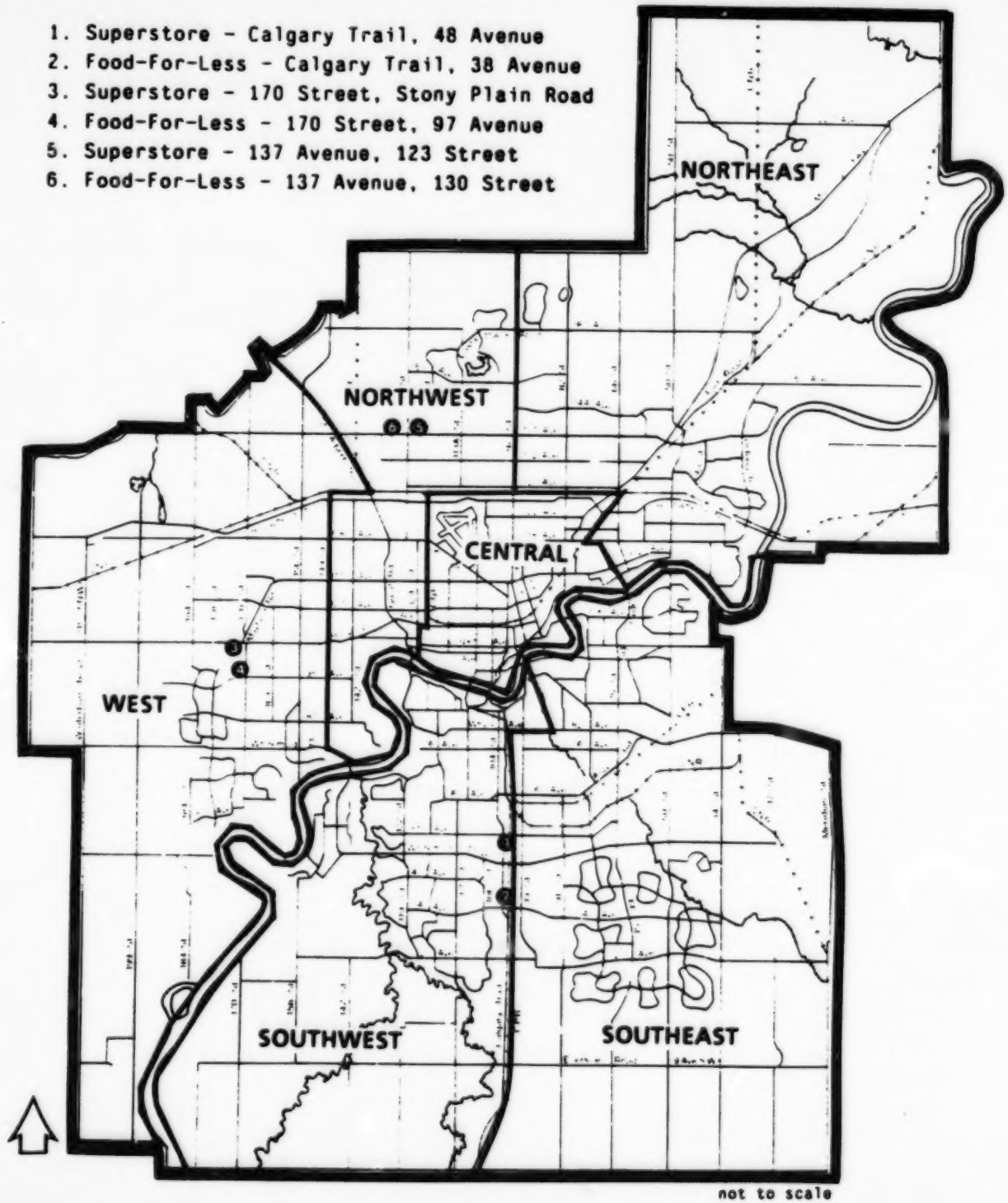
Mega-food stores have caused a number of impacts on the retail market. For example, these stores have affected consumer shopping patterns, transportation volumes, marketing techniques and land values. In particular, the building of these stores has impacted the local neighbourhood food retailing businesses by forcing closures of smaller, older, less efficient stores throughout the city. For example, Safeway has closed eight of its stores since 1983, (See Appendix 1, Map 1). There have been impacts on transportation with increased volumes of traffic on specific arterial roadways. Calgary Trail, 170 Street and 137 Avenue have all experienced significant traffic increases since mega-food stores have begun their operations. There also have been impacts on consumer shopping habits with larger quantities purchased and the acceptance of travelling greater distances for food items.

However, this report focuses on the land use impacts and how mega-food stores have utilized large parcels of land to accommodate their operations resulting in the capturing of large market areas. Specifically, the operations of these stores require large customer parking lots and good accessibility along major transportation corridors to support large market areas within and beyond the city. All of the related factors to land use development are examined in this report.

Map 1

Mega-Food Stores in Edmonton

1. Superstore - Calgary Trail, 48 Avenue
2. Food-For-Less - Calgary Trail, 38 Avenue
3. Superstore - 170 Street, Stony Plain Road
4. Food-For-Less - 170 Street, 97 Avenue
5. Superstore - 137 Avenue, 123 Street
6. Food-For-Less - 137 Avenue, 130 Street



not to scale

Source: Corporate Forecasting Group,
Edmonton Planning and Building Department, 1988.

3. DATA COLLECTION AND ANALYSES

Data collection consisted of two different sources:

- land use data on each location of mega-food store; and
- a consumer automobile licence plate survey to determine the extent of market areas.

3.1 Land Use Analysis Methodology

Each site for all of the mega-food stores was examined to determine any unique land use characteristics. The following set of criteria developed to measure land use characteristics were:

- present land use districts;
- size of parcel for development;
- size of each store;
- association to adjoining functions;
- floorspace to land area ratios for the parcel;
- parking availability and accessibility of the site.

The land use criteria when assessed together will help to determine why mega-food stores are able to draw customers from very large market areas. The size of a store, location along major arterials and accessibility are all factors which influence market draw.

3.2 Market Area Analysis Methodology

The method of data collection to obtain consumer market area information was an automobile license plate survey. This consumer survey was conducted over a four day period at two different time intervals each day. The two observation times at each store were rotated in the schedule to ensure reliable confidence in the sample selections (See Appendix 2, Table 1). The sample vehicles were recorded from the exact parking location at each store over the four day period. The block of automobiles was selected nearest to the main entrance to ensure patrons to the mega-food stores were using the parking site.

The selection period was between October 16 to 19, 1987 with all observations completed by the Planning and Building Department staff.

A total of 1,056 license plates were recorded with the sample size having a 95% confidence level and a plus or minus error factor of 5% (See Appendix 3).

The recorded license plates were then taken to the Provincial Traffic Ticket Office where the license plate registrations of the selected shoppers were identified to determine their places of origin.

In order to measure market draw, the observed licenses were first recorded on traffic district maps (See Appendix 4, Map 2) to indicate the exact location of consumers found within the city and those who travelled to the city. The information was then aggregated in tables and incorporated together to determine overall market extent and regional draw.

4. FINDINGS OF THE STUDY

4.1 Land Use Analysis of Mega-Food Stores

The land use analysis has examined a variety of criteria to see whether specific land use characteristics would emerge for all of the mega-food stores (See Table 1 for detailed data).

Land Use Districts (Zoning)

Only two mega-food stores are districted as shopping centre sites (CSC); these are the Superstores on Calgary Trail and 137 Avenue. All other mega-food stores are under a Direct Control District (DC1, DC2 or DC5), which is a site specific land use designation providing regulations to address circumstances for development that would be inappropriate and inadequate under other land use districts (Land Use Bylaw 5996).

The uniqueness of these stores is supported by the zoning allocated to them. Both Direct Control and Commercial Shopping Centre district designation has allowed these stores to provide a full range of services and goods not found under one operation of other similar developments.

Size of Parcel for Development

The average size of parcel developed for a mega-food store site is 46,450 square metres (500,000 square feet). The Superstore on Calgary Trail was the smallest parcel developed for a mega-food store at 31,600 square metres (340,000 square feet, 7.8 acres), while the Food-For-Less store, also on the Calgary Trail was the largest land area development at 70,495 square metres (758,800 square feet, 17.4 acres) (See Table 1).

Size of Stores Developed (Floorspace)

The average size of a mega-food store developed in Edmonton was 9,290 square metres or 100,000 square feet. On average, Superstores were 11,400 square metres (122,500 square feet) while the Food-For-Less stores averaged only 6,700 square metres (72,200 square feet) in size.

Since Superstores are approximately 4,600 square metres (50,000 square feet) larger than Food-For-Less stores, this size difference is reflected in the greater variety and types of products sold in the stores.

Overall, the very large store size allow mega-food stores to establish a merchandise line which attracts customers from greater distances than smaller size competing food stores.

Association to Adjoining Functions

In general, most mega-food stores are associated with a nearby commercial function on a commercial strip. For example, the Food-For-Less store on the Calgary Trail is located within Southpark Village Mall, while the store on 170 Street is part of the Terra Losa Centre and the mega-food store on 137 Avenue is located with North City Mall.

Table 1

LAND USE ANALYSIS OF MEGA-FOOD STORES IN EDMONTON

Criteria	Calgary Trail		170 Street		137 Avenue	
	1. Superstore	2. Food-For-Less	3. Superstore	4. Food-For-Less	5. Superstore	6. Food-For-Less
Present Zoning	CSC	DC2	DC5	DC1	CSC	DC5
Size of Parcel	31,600 m^2 340,150 ft^2	70,495 m^2 758,826 ft^2	51,490 m^2 554,251 ft^2	43,600 m^2 469,321 ft^2	52,500 m^2 565,123 ft^2	41,290 m^2 444,456 ft^2
Size of Store (Floorspace)	11,110 m^2 119,591 ft^2	6,262 m^2 67,414 ft^2	12,322 m^2 132,642 ft^2	7,507 m^2 80,817 ft^2	10,720 m^2 115,393 ft^2	6,352 m^2 68,383 ft^2
Association to Adjoining Functions	Yes (Gas Bar)	Yes (Southpark Village)	No	Yes (Terra Losa)	Yes (Gas Bar)	Yes (North City)
Floorspace to Land Area Ratios	.35%	.08%	.23%	.17%	.20%	.15%
Parking Availability Spaces to Floorspace	620 5.2/1,000 ft^2	780 11.6/1,000 ft^2	1,400 10.6/1,000 ft^2	528 6.5/1,000 ft^2	820 7.1/1,000 ft^2	575 8.4/1,000 ft^2
Parking Accessibility	6 ent./exits	7 ent./exits	8 ent./exits	6 ent./exits	6 ent./exits	6 ent./exits

1. Superstore - Calgary Trail South
2. Food-For-Less - 3803 Calgary Trail South
3. Superstore - 17303 Stony Plain Road
4. Food-For-Less - 9710 - 170 Street
5. Superstore - 137 Avenue, 12350 Street
6. Food-For-Less - 137 Avenue, 13150 Street

Source: Corporate Forecasting Group
Long Range Planning Branch
Planning and Building Department
1987

Floorspace to Land Area Ratios (FAR)

The average floorspace to land area ratios for all of the mega-food stores in Edmonton is approximately 20% development of the site. Superstore on the Calgary Trail had the highest FAR with 35%, while the Food-For-Less store in the same area had only 8%, due to the extremely large parcel purchased for overall development.

Mega-food stores closely resemble shopping centres by adapting the same development patterns. These stores require large parking areas which allow the facilities to take a regional approach to site development.

Parking Availability and Accessibility

On average, mega-food stores in Edmonton provide about 800 parking spaces per site or 8.2 spaces for 1,000 square feet of floorspace developed. The Food-For-Less store on 170 Street has the lowest parking ratio at 4 spaces per 1,000 square feet of floorspace development, while the very large Food-For-Less site on Calgary Trail has 12 spaces per 1,000 square feet of floorspace.

In relation to accessibility, parking lots on mega-food store sites averaged about six entrances and exits to each store site. The very large parking lots and their capacity to handle large volumes of customers support the regionally oriented land use functions of all mega-food stores.

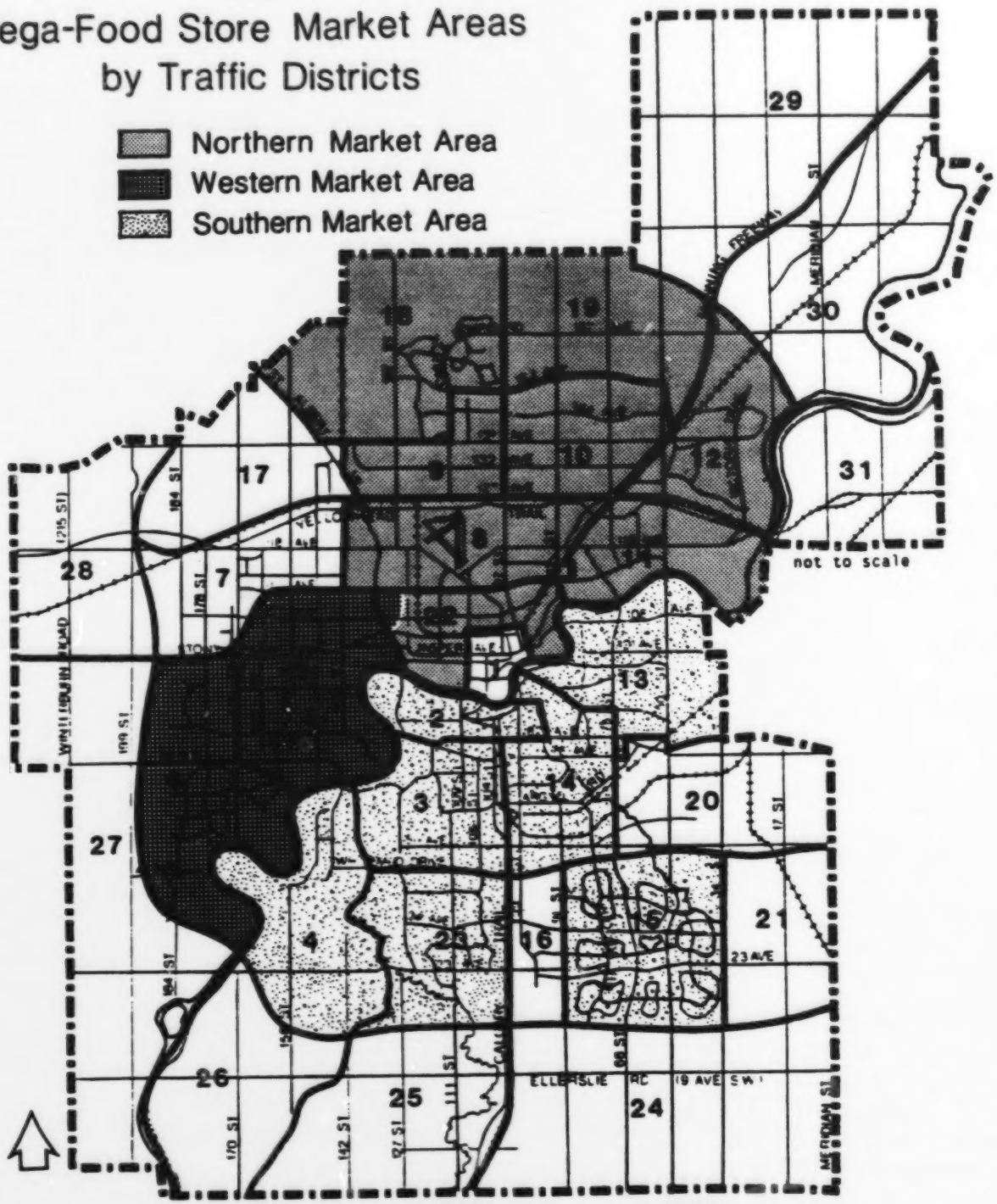
In summary, this land use analysis shows that a typical mega-food store would be zoned CSC (shopping centre) or DC (Direct Control); cover 500,000 square feet in area or 11.5 acres; with a 100,000 square foot store and available parking for 800 automobiles. All of the land use functions are geared to large volumes of traffic generated through the merchandising of food and other related products and services of a regionally oriented centre.

4.2 Market Area Analysis of Mega-Food Stores

The automobile licence plate survey data shows that three distinct market areas exist for mega-food stores in Edmonton (See Map 2). These market areas were defined by totalling the results of individual traffic districts which had surveyed consumers. A breakpoint of 5 consumers from any one district qualified that district as part of the main market area. Single samples were recorded from all over the city, but they were not considered as part of the main concentration of consumers patronizing a particular mega-food store. The total population of represented traffic districts were added together in order to calculate total population for a market area.

Map 2

Mega-Food Store Market Areas by Traffic Districts



1	DOWNTOWN CORE	11	BEVERLY	21	MEADOWS
2	UNIVERSITY	12	CLAREVIEW	22	DOWNTOWN FRINGE
3	SOUTHGATE	13	CAPILANO	23	KASKITAYO
4	RIVERBEND	14	BONNIE DOON	24	DAON 80
5	JASPER PLACE	15	MILLWOODS	25	HERITAGE VALLEY E
6	WEST J P	16	SOUTH INDUSTRIAL	26	HERITAGE VALLEY W
7	N W INDUSTRIAL	17	MISTATIM	27	WEST EDMONTON
8	NORTH CENTRAL	18	CASTLE DOWNS	28	WINTERBURN
9	CALDER	19	LAKE DISTRICT	29	LAND BANK
10	LONDONDERRY	20	S E DISTRICT	30	N E EDMONTON
				31	CLOVERBAR

Source: Corporate Forecasting Group.
Edmonton Planning and Building Department. 1988.

The market areas are the northern market, the western market and the southern market areas (See Map 2). The northern market lies between St. Albert Trail on the west and the northeastern part of the River Valley. The western market is bound by Stony Plain Road and 111 Avenue on the north, 199 Street on the west and the River Valley along its southern boundary. There is also a draw of consumers from the western Downtown Fringe area. The southern market composes the whole area south of the river excluding the University Area. The Downtown is not a part of any particular market area.

The northern market has the largest population draw in the city with approximately 217,500 people from the represented traffic districts. These districts are North Central, Calder, Londonderry, Beverly, Clareview, Lake District and the South East District. Of these traffic districts, the northern market had a primary trade area indicated by the most consumers from Londonderry (22%), Calder (20%) and Castle Downs (20%). These three districts had 62% (163) of the surveyed consumers for the northern market, while representing 47% of the population (See Map 3 and Table 2).

The second largest market area is the southern market having 198,500 people from Southgate, Riverbend, Kaskitayo, Millwoods, Bonnie Doon and Capilano. The primary trade area indicated by consumer reponse for the southern market area was found in Millwoods (40%), Kaskitayo (18%) and Southgate (15%) traffic districts. These traffic districts represented 74% of the sample in the south with 68% of the population (See Map 3 and Table 2).

The west market is the smallest area drawing people from the Jasper Place and West Jasper Place traffic districts along with a small draw from the Downtown Fringe area. The population of this market is approximately 116,600 people. This area is divided between West Jasper Place with 37% of the samples representing 36% of the population and Jasper Place with 35% of the sample representing 49% of the population (Table 2). The two major traffic districts which make up the west market area are also the primary trade areas for the mega-food stores on 170 Street. Together these districts had 72% of the sample with 84% of the population (See Map 3 and Table 2).

4.3 Regional Perspective

The regional consumer inflow rate was determined by identifying all of those consumers who originated from outside the city boundaries. For this study, 23% of the total sample (1,056) originated from outside city boundaries. Results from a similar consumer licence plate survey completed in 1986, for community and regional shopping centres showed that West Edmonton Mall had 24% of its patrons from outside the city.

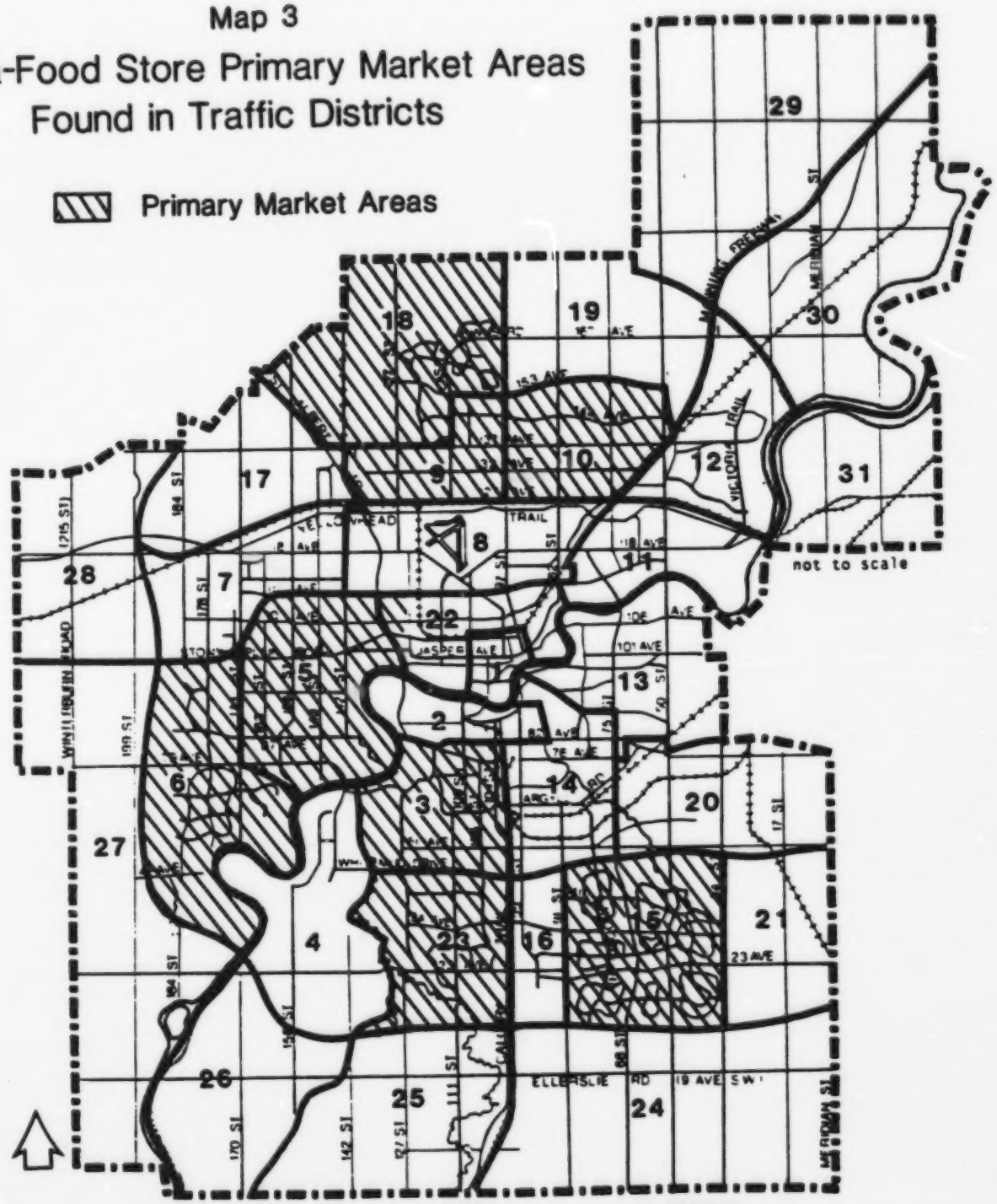
The northern market area had the largest percentage of regional consumers with 25% of the total northern sample (352), followed by the western market area with 22% and the southern market had 20% of the regional draw of consumers (Table 3).

For individual days, Thursday afternoon and all day Friday had the largest regional draw (Appendix 5, Table 2). Specifically, the highest regional draw was in the northern market on Friday, with 45% of the sample at Superstore coming from outside the city, while the Food-for-Less store in the same area had 41% regional

Map 3

Mega-Food Store Primary Market Areas Found in Traffic Districts

Primary Market Areas



1 DOWNTOWN CORE
2 UNIVERSITY
3 SOUTHGATE
4 RIVERBEND
5 JASPER PLACE
6 WEST J P
7 N W INDUSTRIAL
8 NORTH CENTRAL
9 CALDER
10 LONDONDERRY
11 BEVERLY
12 CLAREVIEW
13 CAPILANO
14 BONNIE DOON
15 MILLWOODS
16 SOUTH INDUSTRIAL
17 MISTATIM
18 CASTLE DOWNS
19 LAKE DISTRICT
20 S E DISTRICT
21 MEADOWS
22 DOWNTOWN FRINGE
23 KASKITAYO
24 DAON 80
25 HERITAGE VALLEY E
26 HERITAGE VALLEY W
27 WEST EDMONTON
28 WINTERBURN
29 LAND BANK
30 N E EDMONTON
31 CLOVERBAR

Source: Corporate Forecasting Group.
Edmonton Planning and Building Department. 1988.

Table 2

COMPARISON OF SAMPLE SIZE AND POPULATION IN MEGA-FOOD STORE MARKET AREA TRAFFIC DISTRICTS

North Market Area

Traffic District	Samples Number	Samples Percent	Population Number	Population Percent
8. North Central	25	10%	38,701	18%
9. Calder	54	20%	21,876	10%
10. Londonderry	57	22%	49,498	23%
11. Beverly	10	4%	25,606	12%
12. Clareview	19	7%	27,175	12%
18. Castle Downs	52	20%	30,220	14%
22. Downtown Fringe	19	7%	*23,430	11%
Other Throughout City	28	10%	Not Included	
TOTAL	264	100%	217,506	100%

South Market Area

Traffic District	Samples Number	Samples Percent	Population Number	Population Percent
3. Southgate	41	15%	30,379	15%
4. Riverbend	13	5%	10,820	5%
13. Capilano	20	7%	31,496	16%
14. Bonnie Doon	13	5%	20,330	10%
15. Millwoods	113	40%	65,767	33%
23. Kaskitayo	52	18%	39,735	20%
Other Throughout City	28	10%	Not Included	
TOTAL	280	100%	198,527	100%

West Market Area

Traffic District	Samples Number	Samples Percent	Population Number	Population Percent
5. Jasper Place	95	35%	57,210	49%
6. West Jasper Place	102	37%	42,170	36%
22. Downtown Fringe	14	5%	*17,241	15%
Other Throughout City	62	23%	Not Included	
TOTAL	273	100%	117,723	100%

See Appendix 4, Map 2 for Traffic District location
Population Figures are 1987
*Calculated as a percentage representing sample size to the total population size of the Traffic District, 61% for the Downtown Fringe and 39% in the Western Market Area.

draw. Other stores range in the mid to high twenties and some stores had in the mid thirties range for regional draw (Appendix 5, Table 2). By Saturday and Sunday the sample of consumers from outside the city had dropped off considerably. Regional influence on these areas has shown a specific role in the mega-food stores attraction of consumers.

Table 3

REGIONAL INFLOW TO MEGA-FOOD STORE MARKET AREAS

Samples in Survey

Market Area	Within City Number	Within City Percent	Outside City Number	Outside City Percent		Total Samples Number	Total Samples Percent
North	264	75%	89	25%	=	352	33%
South	280	80%	72	20%	=	352	33%
West	272	78%	79	22%	=	352	33%
TOTALS	816	77%	240	23%	=	1056	100%

4.4 Mega-Food Stores as Retail Anchors On Major Arterial Corridors

Land use data from this research supports mega-food stores acting as anchors on the major arterial corridors in which they locate (Map 4); effectively, they are "shopping centres" located on commercial corridors. The districting of these stores supports the design and development of shopping centre characteristics such as allowing available land to accommodate large volumes of traffic and large floorspace.

The land use by mega-food stores lean towards a central function attracting customers from surrounding areas. As a result, other major retailers have built large stores near the mega-foods to share in the attraction opportunities created by the mega-food anchor tenants on the strips.

Table 4 lists major retailers found on the corridors where mega-food stores have located, (137 Avenue, Calgary Trail, 170 Street) (See Appendix 6, Maps 3-5). In almost all cases, the mega-food store is the largest facility while the other retailers are smaller tenants.

On each retail strip, four businesses were found to locate near the mega-food stores. These businesses are furniture stores, hardware/home improvement, automotive and drugs or retail toy stores (Table 4). These businesses are usually freestanding, located along the strip, trying to capture some of the traffic flows to the mega-food store. The land use by the attracted retailers such as their allowed floorspace size, parking availability and location all support a regionally oriented facility.

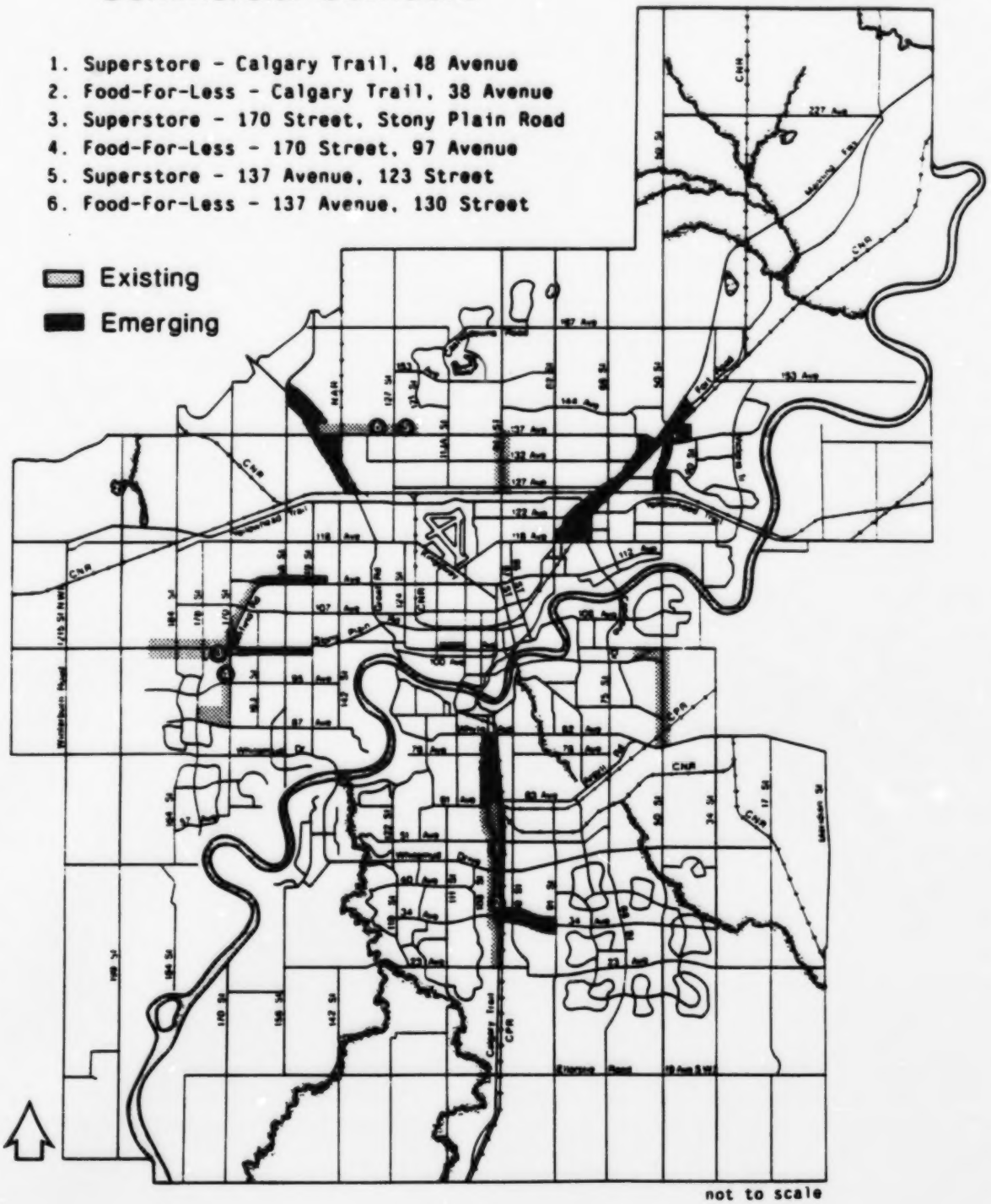
Map 4

Mega-Food Stores Located on Existing & Emerging Major Commercial Corridors

1. Superstore - Calgary Trail, 48 Avenue
2. Food-For-Less - Calgary Trail, 38 Avenue
3. Superstore - 170 Street, Stony Plain Road
4. Food-For-Less - 170 Street, 97 Avenue
5. Superstore - 137 Avenue, 123 Street
6. Food-For-Less - 137 Avenue, 130 Street

Existing

Emerging



not to scale

Source: Megastrip Development in Edmonton, Edmonton Planning and Building Department, 1988.

Table 4

MAJOR RETAILERS FOUND WITH MEGA-FOOD STORES
ON MAJOR RETAIL CORRIDORS IN EDMONTON

Major Corridors	Floorspace	Retail Classification
137 Avenue Corridor Retailers		
Leon's	14,500 m^2; 156,099 ft^2	furniture
Real Superstore	10,720 m^2; 115,393 ft^2	food
Food-For-Less	6,350 m^2; 68,383 ft^2	food
Revelstoke	4,645 m^2; 50,000 ft^2	hardware
Edmonton Coop	3,615 m^2; 38,922 ft^2	food
Toy City	2,054 m^2; 22,118 ft^2	retail toy speciality
Family Tire & Auto	1,477 m^2; 15,900 ft^2	automotive
Calgary Trail Retailers		
Real Superstore	11,110 m^2; 119,591 ft^2	food
Food-For-Less	6,262 m^2; 67,414 ft^2	food
Canadian Tire	5,460 m^2; 58,780 ft^2	automotive/hardware
Beaver Lumber	2,619 m^2; 28,192 ft^2	hardware
London Drugs	1,825 m^2; 19,652 ft^2	drugs
Tecum Furniture	1,726 m^2; 18,585 ft^2	furniture
Future Shop	1,550 m^2; 16,698 ft^2	electronic speciality
170 Street Retailers		
Woolco	13,564 m^2; 146,007 ft^2	*DSTM
Real Superstore	12,322 m^2; 132,642 ft^2	food
Food-For-Less	7,507 m^2; 80,817 ft^2	food
Hunters Trailer & Marine	3,665 m^2; 39,460 ft^2	recreation
Beaver Lumber	3,448 m^2; 24,519 ft^2	hardware
Edmonton Coop	2,277 m^2; 24,519 ft^2	food
Super Toy Store (proposed)		retail speciality

NOTE: - These stores are major retailers located approximately within one block of the mega-food store on the commercial corridor.

- A selection size of approximately 15,000 ft^2 was used. (See Appendix 6, Maps 3 to 5 for exact store locations.)

* DSTM = Department Store Type Merchandise

5.0 CONCLUSIONS

5.1 Research Conclusions

Mega-food stores in Edmonton are designed to attract large volumes of customers. These customers usually drive automobiles and therefore the stores are "auto oriented facilities".

To accommodate a very large consumer market draw from across the city and from outside the city boundaries, these stores are designed with the following features:

- located on major arterial roadways allowing easy cross-town accessibility and visibility to motorists;
- provide numerous entrances and exits making them accessible from almost all directions;
- have a very large floorspace to accommodate the variety of goods and services offered;
- provide large parking areas to accommodate the volume of driving customers.

These land use characteristics all indicate a regionally oriented facility. This conclusion is supported by the information collected on customer origins from the license plate survey. The survey showed that mega-food stores are regional centres, attracting about 23% of their consumers from beyond the city boundaries and, as well, drawing consumers from beyond the local neighbourhood and local community areas within the city.

Both land use information and customer information show that mega-food stores have an important role on the major arterial corridors. The established regional draw of these stores has allowed them to act as major anchor tenants attracting other large and small retailing facilities. The other stores take advantage of the customer flows to mega-food stores hoping to capture a share of the market opportunities created by the major anchor tenants.

Two impacts from mega-food store development are ocurring:

- these new centres have altered travel patterns and traffic flows across the whole city; as a result the major arterial corridors are increasing in traffic volumes and retail expansion; and

- the mega-food stores are changing the retail shopping centre hierarchy in the city by drawing customers from long distances to purchase goods and services at a store which can now be considered a form of regional shopping centre facility.

As a result of this development, surrounding neighbourhood areas near the mega-food stores and the major arterial corridors are experiencing changes in the transportation systems which must handle the larger volumes of traffic generated.

In conclusion, mega-food stores are regionally oriented centres operating within the commercial hierarchy in Edmonton.

5.2 Development Potential for Future Mega-Food Stores in Edmonton

The potential for future development of mega-food stores in Edmonton is primarily based on whether there is a sufficient population to support new stores. Market studies have determined that the required population market should be around 50,000 people. The difference in the city's total population and the totals for the determined market areas is 42,500 people, [April 1, 1987 576,249 (population) minus 533,756 (total market area population) = 42,500]. In addition, surrounding areas outside the city should provide around 20-25% of the total customers of a store. Therefore, population figures would appear to support at least one new store.

A second important consideration for future mega-food store facilities is whether present transportation routes are adequate to handle increased volumes of traffic generated where new stores might locate.

The next major consideration is whether available land exists for the large development of a mega-food store and the other retailers that naturally follow these stores.

Finally, consideration should be given to whether there are areas of the city where impacts from these developments could be lessened, such as traffic congestion on local neighbourhoods.

5.3 Recommended Direction for Policy Related to Mega-Food Stores

Policy analysis should examine mega-food store development in the context of overall city commercial development. The analysis should recognize that these stores are regional centres unto themselves located on retail strip development. In some locations, the shopping centre mega-food store is located by itself while at other locations the store is located in a shopping centre.

Certainly the retail hierarchy recognized in the past would no longer apply to the mega-food store development today and requires adjustment when considering these facilities in the overall commercial structure of the city in today's market.

Policy for development and control of these facilities is important from the city's point of view due to the costs in services provided to the mega-food stores and the likely attraction of other stores. As well, the consideration for transportation upgrading and improvements required to most roadways where these stores locate must be directed by policy.

Future policy should address the following:

- overall commercial retail hierarchy in the city with mega-food stores on retail strips considered a separate, distinct development level;
- the land use site specific characteristics unique to the development of a mega-food store. The size of development parcels, size of stores and parking are all characteristics unique to a mega-food store development;

- effects on surrounding neighbourhoods and communities as a result of mega-food store development. The loss of local store facilities and the creation of new problems on local neighbourhoods such as transportation and loss of local services to residents should be addressed;

- because of the regional nature of mega-food stores, they will continue to attract other regional facilities to the major commercial corridors.

Bibliography

1983

Alberta Report, "Edmonton's Superstore.", by D.Arcy Jenish, October 31, 1983.

Alberta Report, "Safeway's Largest Store Set for Opening." by Dennis Hryciuk, May 3, 1983.

1984

Alberta Report, "The Super-Store Super Scrap. A Safeway-Weston Price War Marches Towards Alberta.", By Brian Bergman and Fay Orr, July 30, 1984.

1985

Financial Times of Canada, "Loblaws Fires a Grocery-Wars Salvo.", by Terry Brodie, September 9, 1985.

City of Vancouver Planning Department, Quarterly Review, "Mega- Markets for Vancouver?", Volume 12, Number 4, October, 1985.

The Edmonton Report on Economic Development, "New $7 Million Wholesale Outlet to Open.", October, 1985.

Report to Council, City of Vancouver Planning Department, "Mega-Market Development.", October 16, 1985.

Globe and Mail Report on Business, "Retailers Still Kicking Despite Supercombos.", by Paul Goldstein, November 4, 1985.

The Financial Post, "Food Chain Takes on Goliaths.", by John Schreiner, December 21, 1985.

1986

Canadian Grocer, "Total Retail Food Hits 33 Billion.", February, 1986.

Globe and Mail, "Super Combo for Assault.", by Paul Goldstein, April, 1986.

Urban Outlook, "Markets Supermarkets, Superstores and Now Supercentres!", Volume 8, Number 7, April 15, 1986.

Real Estate News, "Consumers Redefining Food Store Marketplace.", by Norm Iluki, April 15, 1986.

Globe and Mail, "Strip Plazas Shed Image in Comeback.", by Patricia Lush, April 22, 1986.

Globe and Mail, Report on Business, "Strip Plazas Lure Scared Money.", by Paul Goldstein, April 28, 1986.

1986 cont'd...

Globe and Mail, "Loblaw Uses Super Combo for Assault.", by Paul Goldstein, April 30, 1986.

Edmonton Journal, "Safeway's Largest Store Set for Opening.", by Dennis Hryciuk, May 3, 1986.

The Planner, "Retail Decentralization - The Coming of the Third Wave.", by Russell Schiller, July, 1986.

Alberta Report, "Canada Safeway's Dim Future - A Corporate Takeover May Blow Open the West's Retail Grocery Market.", by Donald Campbell, August, 1986.

The Financial Post, "Superstore Steal Discount Spotlight, Developers Put Megabucks into Megastores.", by Jaimie Hubbard, September 13, 1986.

1987

Globe and Mail, "Future Shaky for Traditional Supermarkets.", by Harvey Enchin, January 22, 1987.

Research Paper 15, "Planning to Accommodate Megastrip Development.", by Don Hussey, Corporate Forecasting Group, Long Range Planning Branch, City of Edmonton Planning and Building Department, February, 1987.

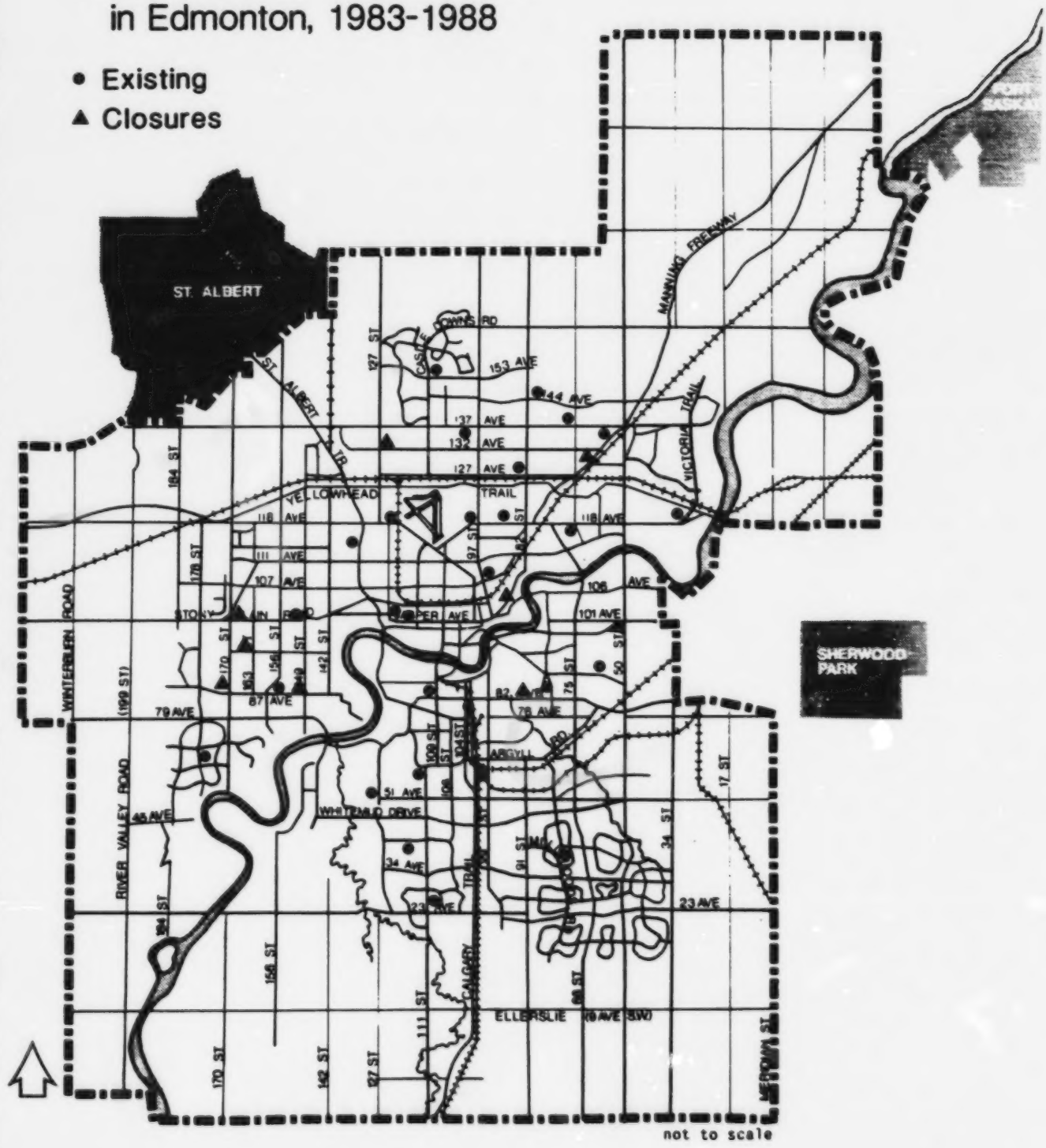
Globe and Mail, "Food Chains Sell Stores to Competitors.", by Haren Howlett, February 2, 1987.

Appendices

Appendix 1
Map 1

Safeway Food Store Closures in Edmonton, 1983-1988

- Existing
- ▲ Closures



Source: 'edmonton telephones' Yellow Pages, 1983-1988.

Appendix 2

Table 1

SCHEDULE FOR DATA COLLECTION

LOCATION	THURSDAY	FRIDAY	SATURDAY	SUNDAY	OBSERVATIONS
Food-for-Less 38 Ave., Calgary Tr. S.	12:00 5:00	2:30 7:30	2:00 7:00	12:00 5:00	22x8 = 176
Superstore 4821 Calgary Tr. S.	12:30 5:30	2:00 7:00	2:30 7:30	12:30 5:30	22x8 = 176
Food-for-Less 170 St., 97 Ave.	1:00 6:00	1:30 6:30	12:00 5:00	1:00 6:00	22x8 = 176
Superstore 1703 Stony. Plain Rd.	1:30 6:30	1:00 6:00	12:30 5:30	1:30 6:30	22x8 = 176
Food-for-Less 130 St., 137 Ave.	2:00 7:00	12:30 5:30	1:00 6:00	2:00 7:00	22x8 = 176
Superstore 12350 - 137 Ave.	2:30 7:30	12:00 5:00	1:30 6:30	2:30 7:30	22x8 = 176
TOTAL OBSERVATIONS	264	264	264	264	= 1,056

Appendix 3

CALCULATION OF ESTIMATED SAMPLE SIZE

Calculation of estimated sample size (n) having a 95% significance level with a ± 5% error range.

Formula is

$$n \geq \left(\frac{z/\sigma}{A} \right)^2$$

where: n = sample size;
z = standard normal distribution area with a 95% confidence level equals 1.96;
= standard deviation, which is unknown;
A = number of units we wish to be no further away from the mean response in the survey results, or the acceptable margin of error which is 5%.

Step 1

To determine the estimated standard deviation (σ)

By estimating the population proportion (π) we can arrive at an upper estimate of the standard deviation (σ).

Therefore, π can be no larger than 0.25 because the margin of error acceptable is (.05%); $\therefore \pi (1-\pi) = .05$

Returning to the original formula and using the calculated inputs:

$$n \geq \left(\frac{z/(0.50)}{A} \right)^2$$

$$= n \geq \left(\frac{(1.96)(.5)}{.05} \right)^2 = \left(\frac{.98}{.05} \right)^2 = (19.6)^2 = 384$$

Therefore, a sample size of 384 would be required at a 95% confidence level with a 5% error range and Z = 1.96.

Step 2

Now, if we use an actual population of outside visitors which has been estimated at .24% (from a previous survey at West Edmonton Mall), then

$$\pi(1-\pi) = (.24)(.76) = .1824$$

Then, in this case, the critical value of Z, which is 1.96 corresponding to the .05% level, is .47.

$$n \geq \left(\frac{(1.96)(.47)}{.05}\right)^2 = \left(\frac{.8428}{.05}\right)^2 = (16.856)^2 = 284$$

the sample size required has been lowered to 284 respondents by lowering the population estimate.

Step 3

We repeated this exercise by adjusting the confidence levels and the acceptable limits for the margin of error.

1. Using a .90% confidence level, Z = 1.65 and using a 10% error factor

$$\therefore n \geq \left(\frac{(1.65)(.43)}{.10}\right)^2 = \left(\frac{.7095}{.10}\right)^2 = (7.095)^2 = 50$$

2. Using a .95% confidence level, Z = 1.65 and using a 5% error factor

$$\therefore n \geq \left(\frac{(1.65)(.43)}{.05}\right)^2 = \left(\frac{.7095}{.05}\right)^2 = (14.19)^2 = 201$$

3. Using a 90% confidence level, Z = 1.65 and using a 5% error factor

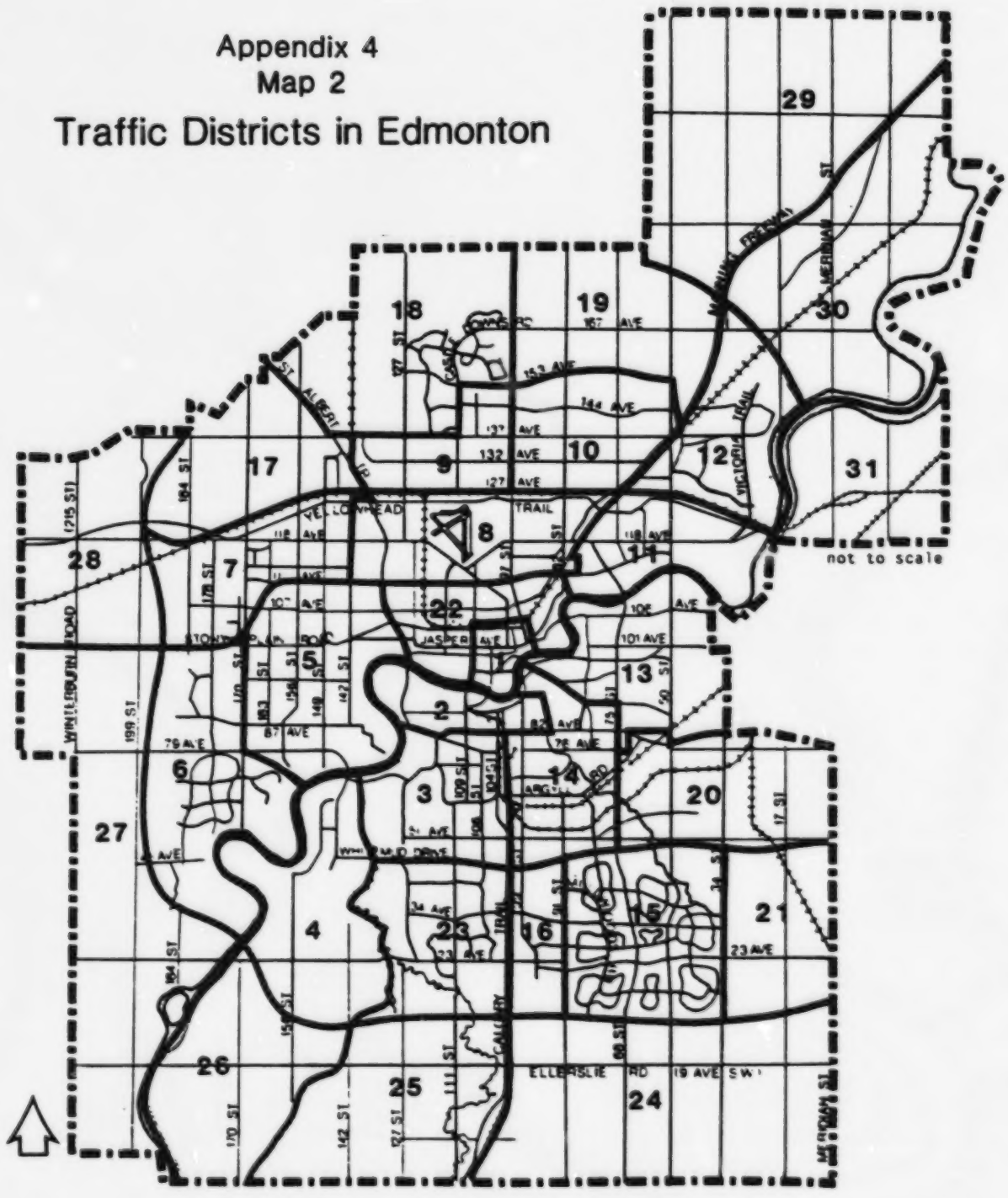
$$\therefore n \geq \left(\frac{(1.65)(.43)}{.05}\right)^2 = \left(\frac{.693}{.05}\right)^2 = (13.86)^2 = 192$$

Conclusion

This exercise shows that our sample size can vary considerably depending on the confidence level and the margin of error accepted. The study has used a 95% confidence level at approximately a 5% to 6% error range which is between 140 to 201 sample size.

Appendix 4
Map 2

Traffic Districts in Edmonton



Source: Transportation Department,
City of Edmonton, 1987.

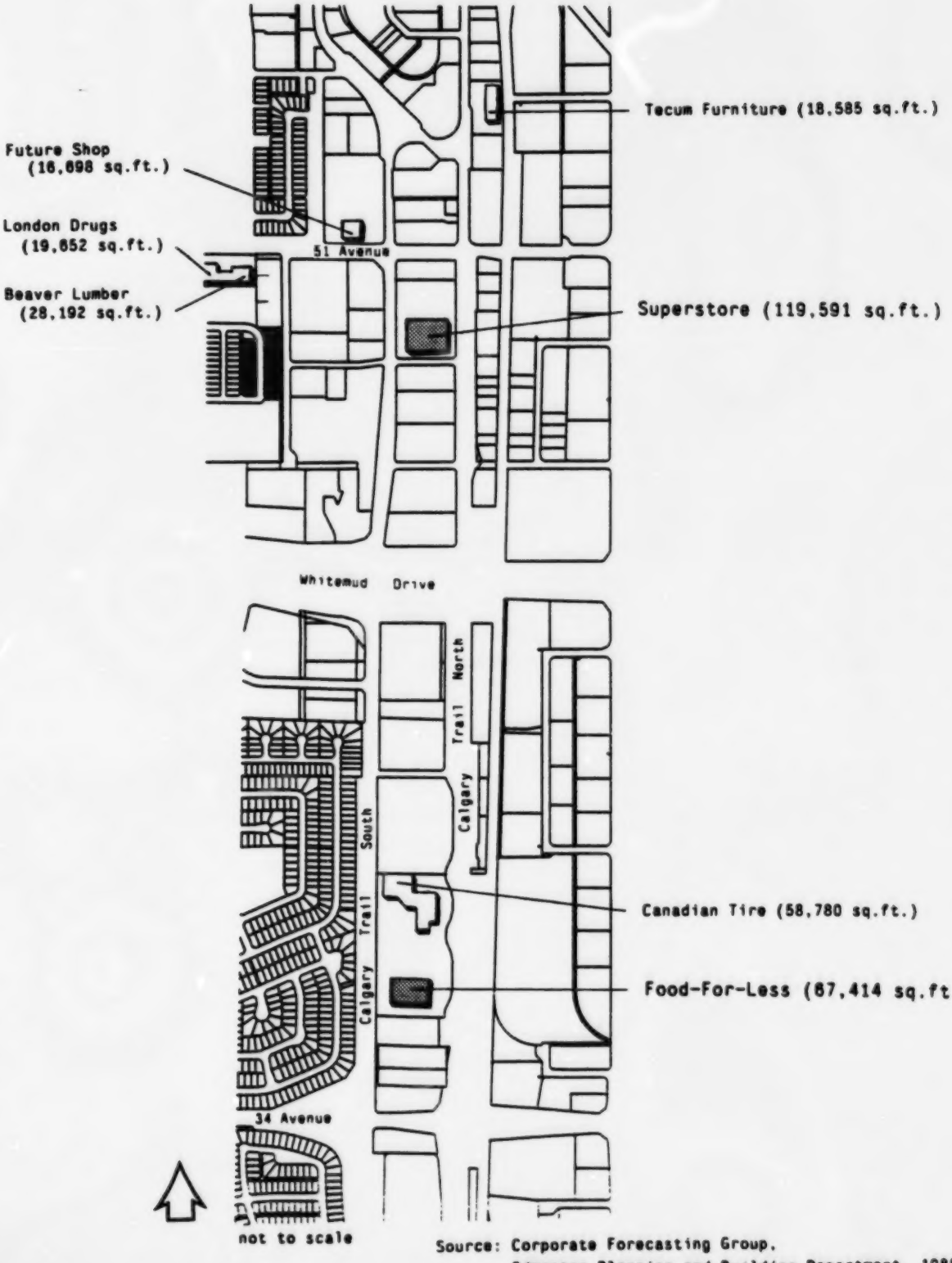
Table 2

REGIONAL INFLOW OF MEGA-FOOD STORE CONSUMERS

	THURSDAY October 15, 1987		FRIDAY October 16, 1987		SATURDAY October 17, 1987		SUNDAY October 18, 1987	
Southern Market								
FOOD FOR LESS	12:00 P.M.	5:00 P.M.	2:30 P.M.	7:30 P.M.	2:00 P.M.	7:00 P.M.	12:00 P.M.	5:00 P.M.
38 Ave., Calgary Trail	18%	18%	27%	36%	18%	14%	23%	14%
SUPERSTORE	12:30 P.M.	5:30 P.M.	2:00 P.M.	7:00 P.M.	2:30 P.M.	7:30 P.M.	12:30 P.M.	5:30 P.M.
48 Ave., Calgary Trail	18%	27%	23%	32%	14%	14%	14%	18%
Western Market								
FOOD FOR LESS	1:00 P.M.	6:00 P.M.	1:30 P.M.	6:30 P.M.	12:00 P.M.	5:00 P.M.	1:00 P.M.	6:00 P.M.
170 St., 97 Ave.	18%	18%	23%	18%	27%	23%	14%	27%
SUPERSTORE	1:30 P.M.	6:30 P.M.	1:00 P.M.	6:00 P.M.	12:30 P.M.	5:30 P.M.	1:30 P.M.	6:30 P.M.
170 St., Stony Plain Rd.	27%	23%	23%	36%	27%	9%	18%	27%
Northern Market								
FOOD FOR LESS	2:00 P.M.	7:00 P.M.	12:30 P.M.	5:30 P.M.	1:00 P.M.	6:00 P.M.	2:00 P.M.	7:00 P.M.
137 Ave., 130 St.	27%	36%	18%	41%	9%	18%	14%	27%
SUPERSTORE	2:30 P.M.	7:30 P.M.	12:00 P.M.	5:00 P.M.	1:30 P.M.	6:30 P.M.	2:30 P.M.	7:30 P.M.
12350 - 137 Ave.	23%	14%	45%	23%	23%	18%	14%	32%

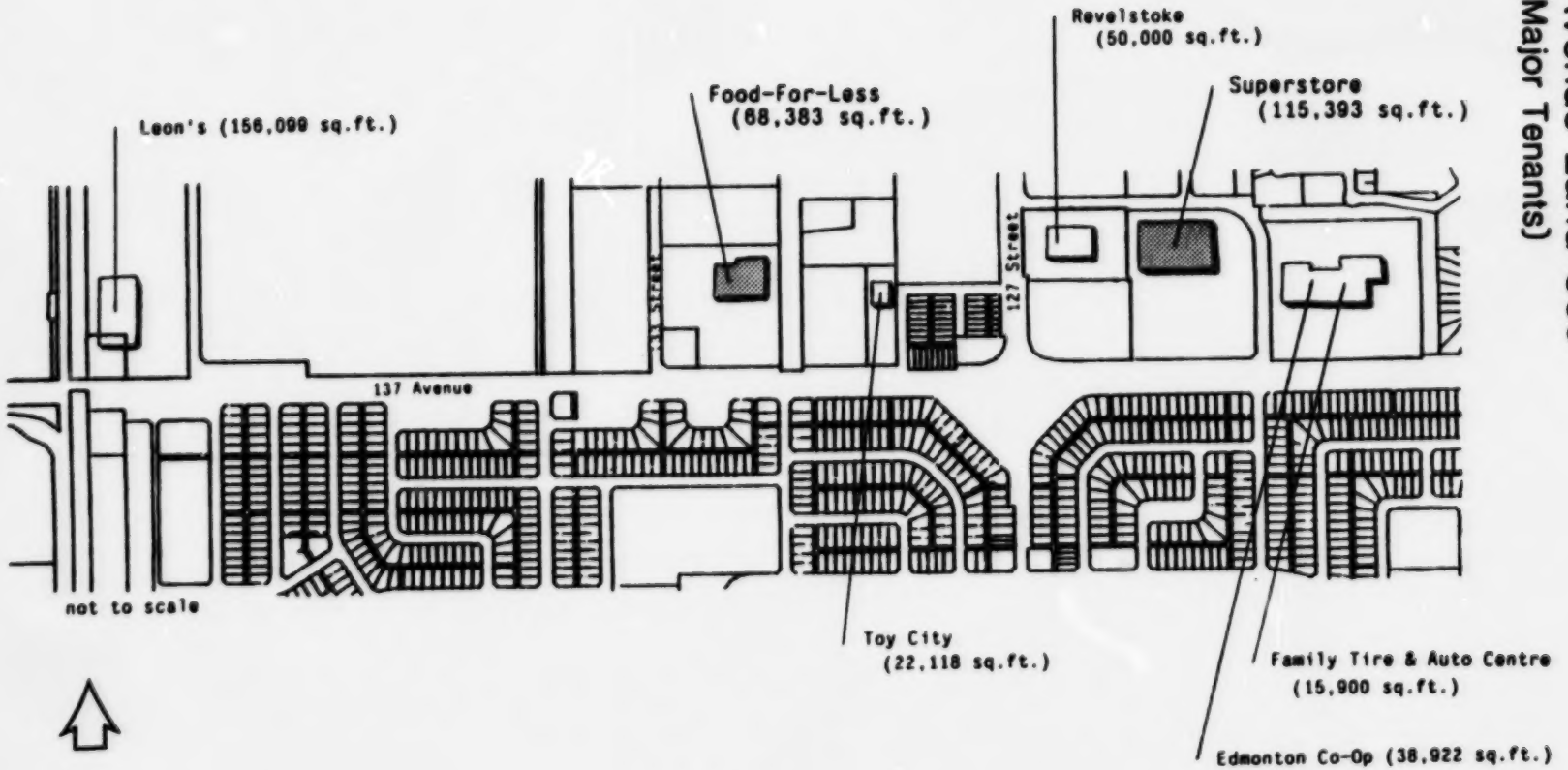
Source: Consumer Licence Plate Survey
by Corporate Forecasting Group
Long Range Planning Branch
Planning and Building Department

Appendix 6 Map 3
Calgary Trail Land Use
(Major Tenants)



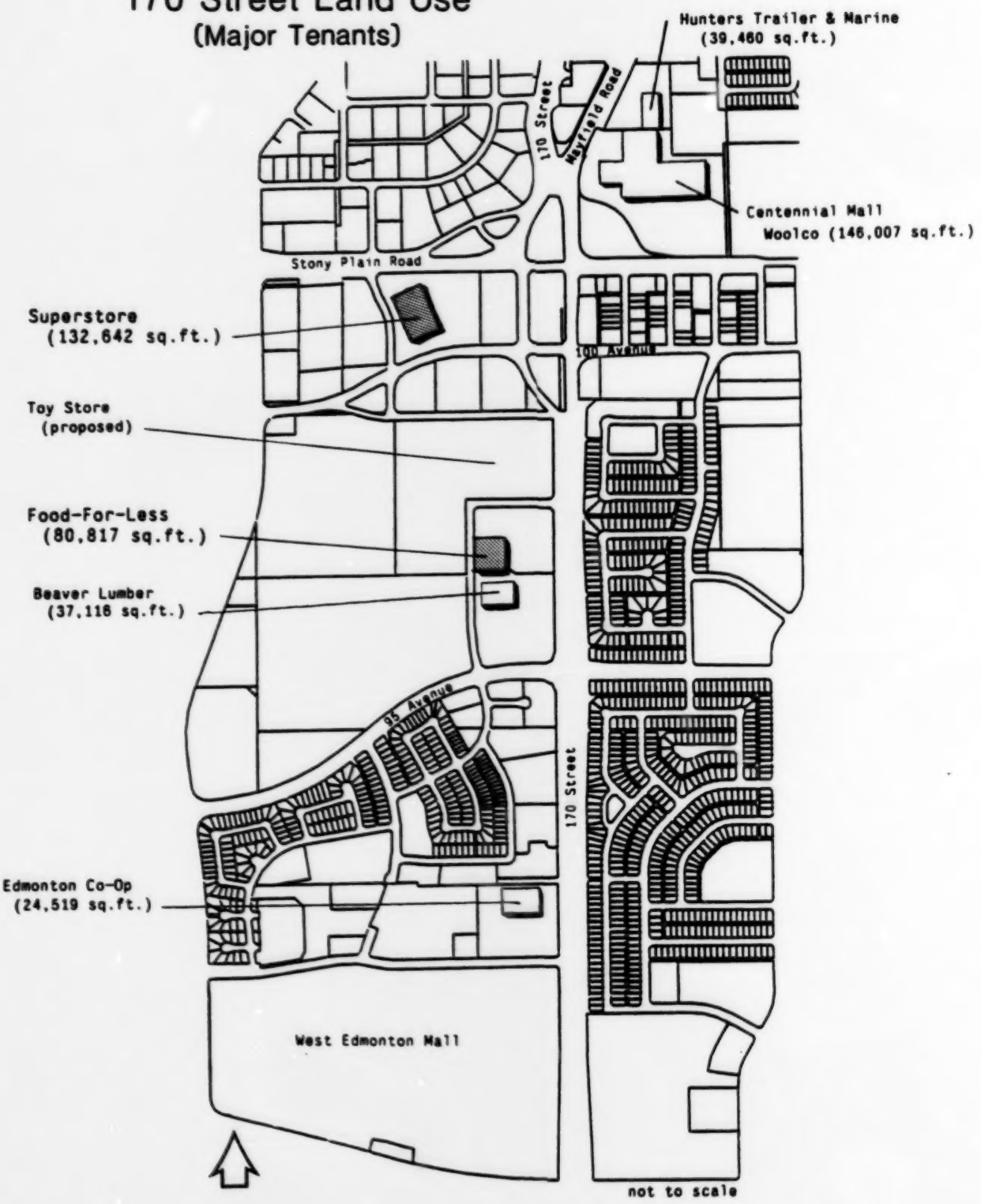
Source: Corporate Forecasting Group,
Edmonton Planning and Building Department, 1988.

Appendix 6 Map 4
137 Avenue Land Use
(Major Tenants)



Source: Corporate Forecasting Group,
Edmonton Planning and Building Department, 1988.

Appendix 6 Map 5
170 Street Land Use
(Major Tenants)



Source: Corporate Forecasting Group,
Edmonton Planning and Building Department, 1988.